



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,785	02/15/2002	Saverio Carl Falco	BB1336 USCNT	4051
23906	7590	11/28/2003	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			KERR, KATHLEEN M	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/076,785

Applicant(s)

FALCO ET AL.

Examiner

Kathleen M Kerr

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Application Status*

1. By virtue of a preliminary amendment filed February 15, 2002, Claims 1-30 are pending in the instant application.

### *Restriction*

2. Restriction to one of the following inventions (noting SuperGroups **and** Groups below) is required under 35 U.S.C. § 121:

- SuperGroup A. Claims 1-13, 24-30, drawn to polynucleotides, chimeric genes, host cells, viruses, and methods of transforming a cell, classified in class 435, subclass 468.
- SuperGroup B. Claims 14-18, drawn to polypeptides, classified in class 435, subclass 193.
- SuperGroup C. Claims 19-21, drawn to methods of selecting a polynucleotide that affects proteinase expression, classified in class 435, subclass 23.
- SuperGroup D. Claims 22-23, drawn to methods of obtaining a nucleic acids encoding proteinases, classified in class 435, subclass 6.

For each of the above SuperGroups, the following Groups also apply:

- Group I, related to corn calpain p94 subunit, SEQ ID NOs: 1, 2, 7, 8.
- Group II, related to rice calpain p94 subunit, SEQ ID NOs: 3, 4, 9, 10.
- Group III, related to soybean calpain p94 subunit, SEQ ID NOs: 5, 6, 11, 12.
- Group IV, related to rice cysteine protease 1, SEQ ID NOs: 13, 14, 17, 18.
- Group V, related to wheat cysteine protease 1, SEQ ID NOs: 15, 16, 19, 20.
- Group VI, related to soybean cysteine protease 2, SEQ ID NOs: 21, 22, 23, 24.
- Group VII, related to corn CLP ATP binding subunit, SEQ ID NOs: 25, 26, 31, 32.
- Group VIII, related to rice CLP ATP binding subunit, SEQ ID NOs: 33, 34, 27, 28.
- Group IX, related to wheat CLP ATP binding subunit, SEQ ID NOs: 29, 30, 35, 36.
- Group X, related to corn CLP proteolytic subunit, SEQ ID NOs: 37, 38, 47, 48.
- Group XI, related to rice CLP proteolytic subunit, SEQ ID NOs: 39, 40, 49, 50.
- Group XII, related to soybean CLP proteolytic subunit, SEQ ID NOs: 41, 42, 51, 52.
- Group XIII, related to wheat CLP proteolytic subunit, SEQ ID NOs: 43, 44, 45, 46, 53, 54, 55, 56.

Thus, each invention is a SuperGroup further restricted to one of the Groups above. The total number of invention is four SuperGroups multiplied by thirteen Groups, fifty-two Groups -- one of which must be elected in response to the instant Office action.

3. The inventions are distinct, each from the other because of the following reasons:

Groups I-XIII are all related as plant proteinase sequences. However, each of the above Groups is distinct, each from the other, based on the different structures and functions of the sequences. No common structure, such as a consensus sequence, of plant calpain 94 subunit is disclosed. Thus, no genus is defined structurally, and each disclosed structure is distinct. No specific, common function is described since the catalytic activity of a cysteine protease 1 is distinct from the catalytic activity of a CLP proteolytic subunit. Thus, Groups I-XIII contain subject matter that is distinct, each from the other. While any of these Groups are identically classified within their respective SuperGroups, restriction for examination purposes as indicated is proper because the search required for SuperGroup A, Group I, is not required for SuperGroup A, Group II, based on the distinct structural limitations in the claims as well as the distinct source species found in the disclosure.

The DNA of SuperGroup A is related to the enzymes of SuperGroup B by virtue of the fact that the DNA encodes the enzymes. The DNA molecule has utility for the recombinant production of the enzyme in a host cell. Although the DNA and the enzyme are related, they are distinct inventions because they are wholly different in structure and function. DNA is comprised of nucleotide bases while enzymes are comprised of amino acids. DNA function to encode proteins while enzymes function to catalyze reactions. Moreover, the enzyme product

can be made by other and materially distinct processes, such as purification from a natural source; and the DNA product can be used for processes other than the production of enzyme, such as nucleic acid hybridization assays. Therefore, members of SuperGroups A and B are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

SuperGroups A and C are related as product and process of use since a portion of the polynucleotides in SuperGroup A are used in the methods of SuperGroup C. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the polynucleotides of SuperGroup A can be used for a materially different process of using the product, such in the recombinant production of the encoded proteinase, which methods are distinct from those of SuperGroup C due to distinct method steps, reagents, and products. Therefore, members of SuperGroups A and C are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

SuperGroups A and D are related as product and process of use since a portion of the polynucleotides in SuperGroup A are used in the methods of SuperGroup D. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the

Art Unit: 1652

product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the polynucleotides of SuperGroup A can be used for a materially different process of using the product, such in the recombinant production of the encoded proteinase, which methods are distinct from those of SuperGroup D due to distinct method steps, reagents, and products. Therefore, members of SuperGroups A and D are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

SuperGroup B is related to SuperGroups C and D by virtue of the DNA being used in the methods of C and D encodes the proteins of SuperGroup B. However, the proteins and neither made nor used in the methods. Therefore, members of SuperGroup A are patentably distinct from members of SuperGroups C and D. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

SuperGroups C and D are related as methods of using portions of DNA encoding plant proteinases as defined by SuperGroup A. However, C and D require distinct methods steps to produce a distinct product. Therefore, members of SuperGroup C are patentably distinct from members of SuperGroup D. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

***Notice of Possible Rejoinder***

4. Because the method claims of SuperGroups C and D do not use the entire portion of the polynucleotides claimed in SuperGroup A, said methods are not subject to rejoinder because they are not methods of using the products. The Examiner notes that rejoinder exists because of *In re* Ochiai, and *In re* Brouwer (see also M.P.E.P. § 821.04), which note that no further search is required for claims to an allowable product. In the case of Claims 19-21, the product used in the claims, namely a portion of Claim 1, for example, may not be an allowable product. The Examiner notes that if Claims 19-21 were amended to be drawn to using the polynucleotide products, as they would be allowed, such claims would be subject to rejoinder.

***Election***

5. A telephone call was made to Lynne Christenbury on November 25, 2003 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 C.F.R. § 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(i).

***Conclusion***

6. There are fifty-two inventions in the instant restriction – one of which must be elected in response to the instant Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen M Kerr whose telephone number is (703) 305-1229. The examiner can normally be reached on Monday through Friday, from 9:00am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathupura Achutamurthy can be reached on (703) 308-3804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

KMK

November 25, 2003

